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NOTES ON THE CULTURE OF WILD FLOWERS.

By HARVEY W. BAKER, Kansas Agricultural College, Manhattan.

Read before the Academy, at Manhattan, November 27, 1903.

THE culture of wild flowers has long been a subject of interest to a few people; but the great majority have paid little or no attention to it. There are a few places in the East where the culture of wild flowers has received considerable attention. Among these may be mentioned the New York botanical gardens, Thomas Mehan's nursery, at Philadelphia, the Shaw botanical gardens, at St. Louis, and perhaps a few other smaller places. There are many species growing in the Western states that have never been transplanted.

A few papers have been written on this subject by Kansas people, and a few plants have been cultivated, but nothing has been done in the state to bring the subject prominently before the people. There are a great many people in Kansas, as well as elsewhere, who like flowers. One reason why they do not have more plants is, that the retail price of nursery-grown plants is so high, and those that are bought are often not cared for properly, and consequently do not give satisfaction.

The cultivation of wild flowers secures for us plants that are adapted to our climate and that require but little care, yet have the peculiar decorative quality, in flowers or foliage, that distinguish them from the great mass of plants as special objects of beauty. Many of our native plants possess these qualities, but are generally looked upon as mere weeds, not worthy of notice.

I have long had the desire to cultivate the wild flowers; and having an opportunity offered in the fall of 1902, I began collecting for a garden at Grace cathedral, in Topeka. For the success of this garden I am indebted to Dean Kaye, Mr. John R. Mulvane, Dr. C. F. Menninger, Mr. A. T. Daniels, and Mr. Edward Wilder, all of Topeka, and Mr. Elam Bartholomew, of Rooks county.

November was spent in collecting in Shawnee and Jefferson counties. During December collections were made in Chase, Rice, Edwards and Clark counties. When the last shipment of plants reached Topeka, the ground was frozen so deep that the plants could not be set out, and they were "heeled in" until spring. Heeling in should be avoided, if possible, since some of the plants will rot, while others will be lost or their labels be destroyed. In April I did some collecting in Kearny county, and Mr. Bartholomew sent me some plants from Rooks county, and a few plants were collected during the summer in the vicinity of Topeka. In all, 154 species were planted, of which five were lost. Some of the others barely survived. Those that lived manifested all degrees of vigor, some scarcely growing at all; others growing so luxuriantly that they had to receive artificial support. One hundred and seventeen species bloomed, of which about eighty per cent. made a better showing than in their native condition.

It is surprising to note the expressions of interest on the part of many farmers in the plants about them, when the subject of wild flowers and their culture is approached from an economic standpoint. I have shown people plants that they had looked at all their lives, and yet had never seen. After they had really seen them, they were surprised and delighted, and wondered why they had never known before that these plants possessed such beauty.

A strong reason why more wild flowers are not cultivated is because of the erroneous idea that the deep-rooted perennials are difficult to transplant. I think that I have shown that they are not difficult, and that many of them are easy to transplant. For example, I dug two roots of bush morning-glory (*Ipomœa leptophylla*)—one five inches in diameter where cut off, and weighing sixty pounds; the other weighing five pounds. No fibrous roots were secured in either case. The larger root sent up several shoots, but soon stopped growing and even withered considerably. After a little, however, it began to grow again, gradually increasing until fall, by which time it had become well established. The other one grew into a vigorous plant and bloomed profusely. Another flower that is thought to be difficult to transplant is the sensitive brier (*Morongia uncinata*). Of this, five roots were collected on the 10th of June; four of them grew fairly well and bloomed. *Yucca glauca* is another deep-rooted plant, of which five specimens were secured, having roots about two feet long, but no fibrous roots. All of these grew.

Evening primrose (*Megapterium missouriense*) has a deep, fleshy root, with no fibrous roots near the surface. I secured six specimens of this plant about the 10th of August. They had crooked, knotty roots about a half-inch in diameter and eight inches long. Within a week from the time of planting they showed a marked new growth, and by the middle of September there was a goodly supply of new leaves, and the plants seemed well established.

I have found a few species a little more difficult to transplant; but their value compensates for the labor expended—Mexican poppy (*Argemone alba*) and evening aster (*Mentzelea ornata*). The latter is a biennial. Of the former, forty plants were planted, of which two survived. These grew very thriftily and bloomed for three months. One of these plants bore 325 flowers, while the other bore

380. These beautiful plants were objects of admiration to every one who visited the garden. To secure a plant three feet high, and branched out like a small tree, with large glaucous leaves fringed with yellow spines, and bearing thirty or forty large white flowers, each four inches in diameter, is worth not a little extra effort. Evening aster might well be considered the queen of the Kansas prairie flowers. I secured fifty roots of this plant from Clark, Kearny and Rooks counties. Only one specimen lived. This made as large and healthy a plant as I ever saw on the plains. It commenced blooming on the 10th of August and continued until the 15th of September, producing 178 flowers in all, and having as many as thirty-five at one time. The flowers are four to five inches in diameter, of a creamy-white color, and very fragrant. The plant is very punctual in its actions. The flowers begin opening about twenty minutes past six o'clock in the evening and in ten minutes are open wide. The second evening these blossoms open ten minutes earlier than the new ones. Occasionally they will open a third time. They always close between twelve and one o'clock at night. The plant is a luxury, and worth any reasonable effort to secure.

No attention need be paid to the soil from which plants are taken. The fact that a flower is found growing in a certain place does not necessarily prove that it is growing in the best place. It may be growing there because it has been crowded out of a better place.

It is marvelous how some plants respond to a little care. It is always advisable to use plenty of sand, and a little fertilizer may be employed to advantage; but, generally, fertilizers should be used sparingly. There were in my garden plants from the swamps along the Kaw river, from deep woodlands, from fertile meadows, from the rocky bluffs of Chase county, from the saline marshes on the Arkansas, from the sandy plains of the southwest, and from the chalk hills of the northwest—all growing side by side in the same soil. And each one seemed to be perfectly at home; in fact, many of them grew better than in their wild condition.

An ideal garden would be one in which a pond and a rockery had a place. A rockery is more essential and is more available in most localities. On it many low plants can be grown to advantage that are otherwise undesirable; and many of those that can be grown on level culture show better on a rockery.

The best time, of course, to move plants is while they are dormant; but with proper care they may be moved at any time. When plants are moved in the summer, it is necessary to prune the tops severely; and special care should be taken to firm the soil about the roots. When convenient, it is advisable to take the plants up in a lump of

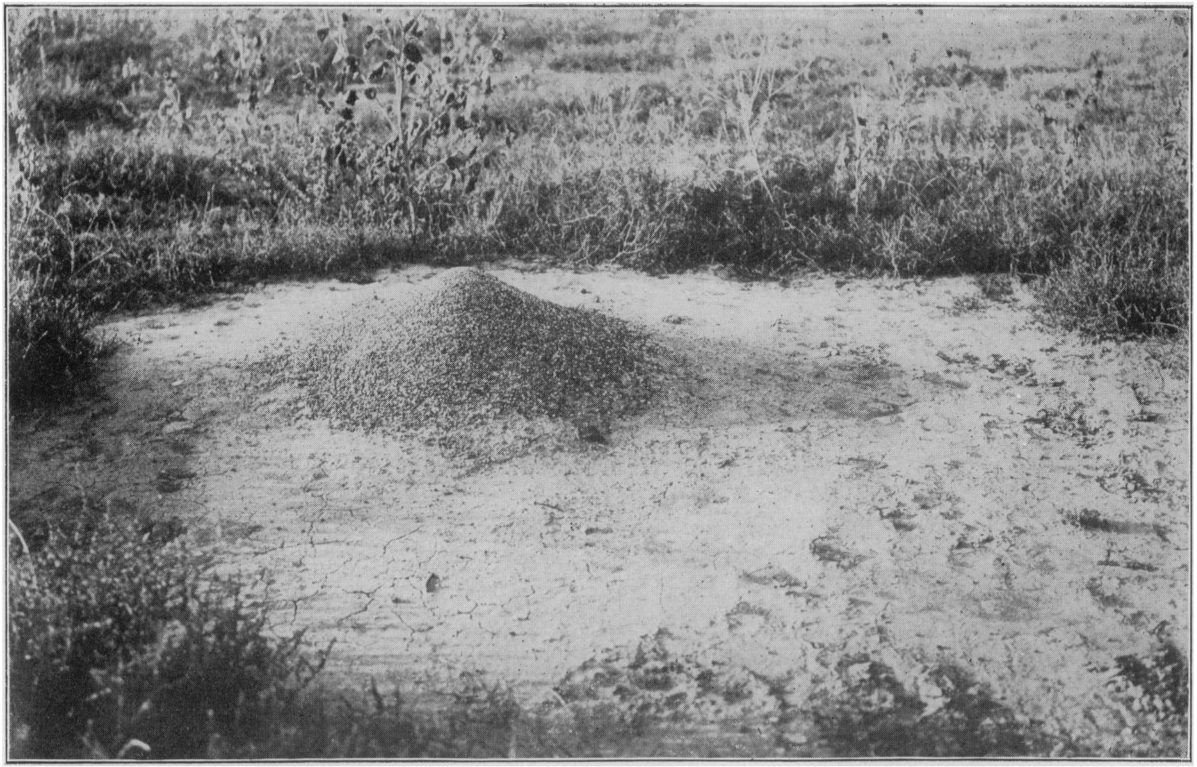

Plate XXVII.—Ant Mound (No. 1 of table), Wallace, Kan.

earth. Judgment should be used in watering wild plants. The water that is necessary to secure the best results with those from the lowlands will drown some of those from the arid plains.

Only a comparatively small amount of work has been done as yet. And one year is not sufficient to fully develop a plant and show what it will be under cultivation.

This subject should interest every Kansas home-maker; and it cannot fail to interest many when they give to it the attention its importance deserves. The subject is worthy of a place in the work of the Experiment Station in the Agricultural College.